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0001/PTO Rev. 10/95 — U.S. Department of Commerce Patent and Trademark Office			
TRANSMITTAL FORM *(to be used for all correspondence during pendency of filed application)*		Application Number	10/783,953
		Filing Date	February 20, 2004
		First Named Inventor	Kuo Yi-Lung
		Group Art Unit Number	3745
		Examiner Name	Unassigned
Total Number of Pages in This Submission	6	Attorney Docket Number	23724-07790

ENCLOSURES *(check all that apply)*

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- ☐ Application Data Sheet
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  - ☐ Copies of IDS Cited References
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- ☐ Status Request
- ☐ Revocation and Substitute Power of Attorney
- ☐ Issue Fee Transmittal
- ☐ Letter to Chief Draftsperson
- ☐ Formal Drawing(s):
  - [ ] Sheet(s) of Figure(s) [ ]
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to Group *(Appeal Notice, Brief, Reply Brief)*
- ☐ Certified Copy of Priority Document(s)
- ☐ After Allowance Communication to Group
- ☒ Statement of Accurate Translation on Non-English-Language Prior-Filed Provisional Application Pursuant to 37 C.F.R. § 1.178(a)(5)(iv) with an English Translation
- ☐ _____
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REMARKS:

SIGNATURE OF ATTORNEY OR AGENT

Signature:	Robert A. Hulse		
Attorney/Reg. No.:	Robert Hulse, Reg. No. 48,473	Dated:	May 4, 2005

CERTIFICATE OF MAILING

I hereby certify that this correspondence, including the enclosures identified above, is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below. If the Express Mail Mailing Number is filled in below, then this correspondence is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service pursuant to 37 CFR 1.10.

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IN THE UNITED STATES

PATENT AND TRADEMARK OFFICE

APPLICANTS:	Kuo Yi-Lung
APPLICATION NO.:	10/783,953
FILING DATE:	February 20, 2004
TITLE:	Fan for Cooling a Computer
EXAMINER:	Edward K. Look
GROUP ART UNIT:	3745
ATTY. DKT. NO.:	23724-07790

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Dated: May 4, 2005 By: Robert A. Hulse

Robert A. Hulse, Reg. No. 48,473

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STATEMENT OF ACCURATE TRANSLATION OF NON-ENGLISH-LANGUAGE PRIOR-FILED PROVISIONAL APPLICATION PURSUANT TO 37 C.F.R. § 1.78(a)(5)(iv)

Sir:

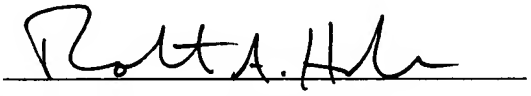
The above-identified application claims the benefit of U.S. Provisional Application No. 60/456,432, filed March 20, 2003, which was filed in a language other than English. In accordance with 37 C.F.R. § 1.78(a)(5)(iv), Applicant hereby submits an English-language translation of the non-English-language prior-filed provisional application and a statement that the translation is accurate.

Applicant engaged the services of a competent translator to obtain the attached English translation. Accordingly, the attached English translation is believed to be an accurate translation of the non-English-language prior-filed provisional application, upon which the above-referenced utility patent application is based.

If it is believed for any reason that direct contact would resolve any remaining issues in this matter, the Patent Office is encouraged to telephone the undersigned at the number given below.

Respectfully submitted,
KUO YI-LUNG

Dated: May 4, 2005

By: 

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Design Name: Innovation of Fan Assembly

Abstract:

This design covers an innovation of fan assembly. This fan assembly features an inward concave arrangement of cooling fan and inner frame in front surface, creating an inward slope between the inner and outer frames.

Design Description:

Computers are widely used in our lives. Development of material and electronic technologies has been boosting speed and lowering dimensions of microprocessors in recent years. Computer manufacturers are developing and launching more powerful and portable computers in smaller size.

However, computer products cased in chassis, motherboards in particular, generate more heat due to operation at high speed, which must be cooled down with cooling fans. Besides system fans, central processing units (CPUs) are equipped with cooling devices. Cooling fans are necessary for all computers.

The traditional cooling fan or fan assembly, the prior art, is shown in Fig. 1. The fan blades insides the outer frame is driven by an output shaft of a motor to generate an inward or outward airflow. To create ventilation, some air channels (B) are designed on the inner frame (A). The center of this frame is a near circular block (C). When the blades rotate air draft is forced to go through the air channels (B). The inner frame (A) and the air channels (B) are on the same plane, the output face.

The similar design is applied in the part on the chassis which corresponds to the output face, which is to say, the central near circular block (C) is linked to the outer frame by an inner frame (A) with multiple air channels (B) on one plane surface.

This design can offer basic functions. However, the airflow generates a near elliptic disturbed flow zone in front of the near circular block (C) due to its blocking. Simultaneously, the distance between the near circular block (C) and the output shaft of the motor or blade trunnion is the same as that between the inner frame and the output shaft or the blade trunnion, which leads to blade vibration and loud noise.

In view of this, Applicant, experienced in development and manufacture and marketing of PC products in the past years, has overcome the above-mentioned limitations through tests and launched this design, innovation of fan assembly.

Technical details of this design will now be described with reference to the following figures. Fig. 1 shows the output face for the prior art, Fig. 2 depicts the output face for this design, Fig. 3 describes the disturbed flow zone in front of the output face for the prior art, and Fig. 4 illustrates the disturbed flow zone in front of the output face for this design.

The fan assembly covered in this design consists of the cooling fan and the part on the chassis which corresponding to it. Besides a motherboard, a PC contains peripheral devices or associated devices or assemblies which produce heat when operating.

To improve the limitation of the fan assembly, the prior art, the inner frame (12) which fastens the fan on the outer frame (1) and the central block (11) are engineered in an inward concave arrangement, in a bowl shape, creating an inward slope between the outer and the inner frames. This design ensures that the distance between the central block (11) and blade rotor (D) is shorter than that between the inner frame (12) and the blade rotor (D), with a vertically concave architecture and a plane surface on the central circular block (11), but its features are not limited to these only.

With reference to Fig. 3, we take outward airflow generated by the cooling fan, the prior art, as an example. Rotating blades force air out; this airflow creates a disturbed flow zone (E) in front of the central block (C) due to its blocking. Length of the disturbed flow zone depends of the central block (C). The disturbed flow zone (F) in front of the central block (11) for this design, as shown in Fig. 4, is identical to that for the prior art, but the concave architecture of the inner frame and the central block ensures that its extension out of the output face is shorter than that for the prior art, which help lower noise. This architecture shows the same effect on inward airflow.

The design can be applied on the part on the chassis which corresponds to the output face of this fan assembly, which is to say, the part on the chassis is designed in an inward concave arrangement to match the central block (C) of the fan assembly. This helps shorten extension of the disturbed flow out of the output face and the distance between the chassis and the fan shaft to ensure less vibration.

Therefore, implementation of this design helps lower vibration and noise. It dramatically improves the limitation of the traditional fan assembly, the prior art, helping increase quality of computer products.

The preferred embodiment for this design is described hereinabove. Any modification derived from this design by those who are familiar with it will be subject to the scope of the claims.

In a word, this design is significantly different from the prior art with regard to purpose, way and effect. This utility innovation meets all requirements for application for a design patent. We request you, Examining Commissioners, to examine our claims, and to make a patent grant decision at the earliest opportunity.

Illustrations:

Fig. 1: Output face for the traditional fan assembly, the prior art.

Fig. 2: Output face for the fan assembly in this design.

Fig. 3: Disturbed flow zone in front of the output face for the prior art.

Fig. 4: Disturbed flow zone in front of the output face for this design.

Captions:

outer frame	1	central near circular block	2	inner frame	A
air channel	B	central circular block	C	blade rotor	D
disturbed flow zone	E	disturbed flow zone	F		

What is Claimed is:

1. An innovation of fan assembly which features an inward concave architecture on the output face, generating an inward slope between the inner and the outer frames.
2. A computer cooling system according to claim 1, wherein the cooling fan is used for computer products.
3. A computer cooling system according to claim 1, wherein the cooling fan is a discharge fan.
4. A computer cooling system according to claim 1, wherein the cooling fan is a blowing fan.
5. A computer cooling system according to claim 1, wherein the fan assembly is fastened on the outer frame with the inner one.
6. A computer cooling system according to claim 1, wherein the central block features an inward concave architecture.
7. A computer cooling system according to claim 1, wherein the central block is vertically concave with a plane surface on it.